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ABSTRACT

This guide presents methods for promoting integrated development in autistic children, through the use of attachment-based activities. The first section reviews the literature on autism, including its etiology, diagnosis, treatment, and attachment research. The second section describes the Minneapolis Children's Medical Center program, called Exceptional Children with Communication and Interaction Disorders (ECCID) where the attachment activities were developed. This section lists attachment behaviors, charts the early developmental skills important to the development of attachment, and provides a framework for fostering the development of those interactional behaviors that are crucial to attachment and to learning. The framework components include activity development, activity presentation, a causal component where the child initiates attachment cueing responses, and an effect component where the adult responds to maintain the interaction and promote attachment. A developmental progression of activities is presented within the framework and includes observation, positive interactions, organization of the environment, focus and persistence, sequential organization, and permanence. The volume concludes with highlights of the clinical results brought about by the program; examples of forms, records, and monitoring instruments used in the program; and an extensive bibliography. (JDD)

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Autism and Attachment

An attachment-based intervention guide for children with autism and other pervasive developmental disorders

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Autism and Attachment

An attachment-based intervention guide for children with autism and other pervasive developmental disorders

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About Minneapolis Children's Medical Center

Minneapolis Children's Medical Center (MCMC) is a pediatric specialty facility that provides care for children from premature newborns to adolescents. The medical center's philosophy of care is family-oriented, focusing on the physical and emotional well-being of children and families.

Exceptional Children with Communication and Interaction Disorders is one of the programs offered at MCMC's Early Childhood Center. The program's aim is to foster the positive development of young children who have moderate to severe difficulties with communication, learning, behavior, and interaction, including children with autism and related developmental disorders. Diagnostic and individual treatment services, along with treatment for preschool children in classroom settings are available. In addition, outreach and consultation services for preschool and school-aged children are offered.

Family services include parent guidance, education, therapy, advocacy, and sibling support services.

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The content of this guide evolved through years of observation, consultation, and more important, clinical experience with families and their children with early symptoms of autism and related disorders. The evolution occurred through the work and teachings of Sheila Merzer and Lyle Chastain, co-directors of *Exceptional Children with Communication and Interaction Disorders,* a program of Minneapolis Children's Medical Center. The implementation of these activities also has been highly-influenced by Cindy Dolby Nollette, through her work with families who have a child with autism.

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The parents and children who participated in the program.

Section I
Review of the Literature

Introduction

As a student and a practitioner, I am constantly reminded of the importance of employing experimental methods in educational psychology. I also am aware of the difficulty of transforming theoretical frameworks into practical application. Therein lies the challenge in understanding the development and treatment of children with autism who often appear to be exceptions to the rule.

Children with autism seem to be exceptional in every sense of the word. They may not appear physically handicapped. They may seem bright in some areas of development, yet extremely delayed in other areas. They seem to learn differently from other children and require innovative intervention strategies. Investigators and practitioners are far from consensus on determining etiology, treatment, or interventions for children with autism. In spite of all the complexities, the interest of researchers and practitioners continues.

This guide is meant to provide the reader, whether researcher, practitioner or parent, with ways to promote integrated development in autistic children. The activities are **attachment-based**, meaning that activity goals emphasize the constellation of behaviors we define as representing attachment. Many of these behaviors are expected to develop spontaneously in children who develop typically, but not in children with autism.

The guide is meant to be a stepping stone, from which practitioners can adapt and expand activities to accommodate the needs of the child, and utilize the skills of the adult.

This guide is divided into three sections:

Δ The first section provides an **historical overview of the study of autism,** including a discussion of issues related to etiology, diagnosis and treatment. The section includes discussion of major milestones in research on **attachment**, along with the implications drawn regarding the relevance of attachment concepts for the autistic child.

Δ In the second section, we describe the program where the attachment actitivies were developed. The guide presents careful explanation of **sample activity components** based on attachment themes, organized within a treatment framework.

Δ Section three includes a **summary and conclusion** including a description of clinical experience that supplements and supports the effectiveness of the proposed attachment guide. You also will find examples of forms, records, and monitoring instruments used in the program, as well as an extensive bibliography.

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Section I
Review of the Literature

This section provides a review of the literature available on autism along with an overview of relevant attachment issues. It is not meant to be an exhaustive examination, or purely academic in presentation. If you are interested in a more detailed and extensive study of autism and development, review the resources listed in the bibliography.

The term **autism** emerged in 1943 after Leo Kanner's article, "Autistic Disturbances of Affective Contact," was published. Kanner initially described 11 case studies of autism, and since then, study of the disorder has been filled with controversy. Even though much research has evolved since that article, Kanner's vivid personal accounts still are highly regarded and are cited frequently as playing a major role in the emergence of autism as a diagnosis.

With his descriptions, Kanner emphasized three primary characteristics of autism: **language disturbances, relationship disturbances** and **insistence on the maintenance of sameness.**
These characteristics continue to highlight the literature on autism.

A variety of research began to surface following Kanner's article. In turn, many facets of the disorder were disputed, except for a consensus that severe social withdrawal and severe communication difficulties were characteristic of autism. Consequently, an examination of the research reveals few similarities and several differences in theories and approaches. Following is an overview of some of the theoretical frameworks that evolved since Kanner. These are divided into three areas--issues related to etiology, diagnosis, and treatment.

Issues related to etiology

Historically, arguments about the cause (**etiology**) of autism surrounded whether, as DeMyer noted, "parents were fully implicated, partially implicated, or fully exonerated as causing the condition." The nature versus nurture argument was prevalent in the field. As DeMyer suggested, much of the literature could be categorized according to the researchers' perspectives, including:

- Defective parental nurture
- Defective biological system in child's nature
- Defective nature-nurture interaction.

Bettleheim's psychogenic theory is perhaps the most well-known theory of the parental **nurture** category. He posited that autism develops as a result of parental rage and rejection, a stress he equated with his experience in Nazi concentration camps. While Bettleheim's ideas remain controversial, the lack of current support is evidenced by the limited reference made to his work within recent literature. In clinical practice, however, the tendency for professionals to place blame continues as parents describe incidents during which professionals seem to attribute the cause of the child's autistic behaviors to inadequate parenting.

Rimland provided evidence against Bettelheim's psychogenic theory and in support of a **nature** theoretical framework. Rimland's treatise purported that autism is determined by bioligical factors, namely a malfunction

in the reticular formation, an area in the brainstem which is believed to play a role in the processes of attention, alertness, habitation, and consciousness. Rimland's biological viewpoint has expanded further into prominent research which examines treatment for autism with high doses of vitamins.

The **nature-nurture** theories combine biological and environmental components. Mahler's theory provides an example of a theoretical framework that looks at the interaction between the "vulnerable" infant and the skill of the parent. Mahler suggested that the infant's constitutional "ego defect" may create a vicious circle of pathogenic mother-child relationships. Mahler's framework is based on Freudian developmental concepts and is referred to as a "quasi-socio-biological proposition."

Beyond the early theories of autism, research quickly expanded in all directions. Much of the prominent literature, however, continues to seek and establish organic causes of autism. Following are authors who highlight the literature.

Rutter suggested that the theory that autism is a **primary defect in terms of language or coding** was most likely. He felt that, on the basis of such problems, behavioral manifestations could be explained in terms of cognitive and perceptual defects.

Ornitz and Ritvo proposed a **neurophysiological** basis for autism and held that developmental failures were the result of a breakdown in the regulation of sensory input/stimulation, resulting in perceptual inconstancy.

Concurrently, Clancy and McBride veared away from a single cause-effect framework to suggest a **multi-faceted** etiology. Within this framework, they purported that autism may be better understood as "a developmental process operating within a social system, the family."

Currently, research continues to focus on **neurophysiological** factors. Cohen, Caparulo, and Shaywitz have approached autism via research on neurotransmitters, suggesting that the development of autistic behaviors has a **biological** base. Coleman also examined a constellation of autistic characteristics manifested in children with a variety of metabolic, infectious and nonspecific diseases, concluding that a single etiology or underlying influential mechanism remains undiscovered.

Investigators expand their search for one or more organic causes of autism and many questions remain.

Issues related to diagnosis

Kanner's original description of the characteristics of autism were highly detailed and set the stage for a long history regarding definition and differential diagnosis. Unlike Down's or Fragile X Syndrome, autism does not have an identifying genetic marker to establish diagnosis. Rather, the diagnosis of autism depends on the practitioner's skills to draw impressions from developmental history, parent reports, and clinical observations. This procedure leaves much room for subjectivity and discrepancy. Attempts to develop criteria to aid the reliability of the diagnostic process have been actively pursued.

In 1977, the National Society for Children and Adults with Autism formulated a **Definition of the Syndrome Autism**, which outlined the essential features and considerations in differential diagnosis.

Also widely used are the DSM-III (1980) criteria which include:

- Δ Onset before 30 months
- Δ Pervasive lack of responsiveness to other people
- Δ Gross deficits in language development
- Δ If speech is present, peculiar speech patterns such as immediate and delayed echolalia, metaphorical language and proniminal reversal
- Δ Bizarre responses to various aspects of the environment (e.g., resistance to change, peculiar interest in or attachments to animate or inanimate objects)
- Δ Absense of delusions, hallucinations, loosening of association and incoherence, as in schizophrenia.

Relatively few children meet the above criteria (2 to 4 in 10,000 children, with a male-female ratio of 3.4 to 1) Those who do, exhibit a wide range of behavioral characteristics. One child, age two, may be described as a genius because he can memorize written words, thus appearing to read. Another child, age three, may variably use one or two words, which are then never spoken by the child again.

Most of the children appropriately meet motor milestones and physically appear "normal." When closely observed, however, it becomes clear that their difficulties in communication and interaction often contribute to behaviors which interfere with their ability to learn from their environment.

A number of assessment instruments and diagnostic tools have been developed, and are listed in the appendix. Many assessment approaches rely on arbitrary criteria, with only a few being standardized (such as PEP and ASIEP).

Besides controversy over the reliability and validity of diagnostic tools, clinical experience has suggested that the diagnosticians, often from the medical community, have minimal exposure to autism in their training. The impact of this lack of awareness can be complicated further when parents perceive the professional as having ultimate authority. Since the child often meets gross motor milestones, observed during well-baby checks, parents are often told that the child may outgrow the problem. Articles such as that by Freeman and Ritvo may serve to educate pediatricians on identification, diagnosis and management of autistic patients.

More recent literature on the diagnosis of autism emphasizes the most important or **differentiating features.** For example, Fein and her colleagues, after reviewing the history of diagnostic issues in autism, suggested that the **social/affective deficits** in autism are primary, not secondary to deficits in cognitive functions. They further hypothesize that while autism's etiology is neurological, it is primarily disruptive to social/affective development.

The problems of differential diagnosis also caused unrest in the autism treament field. Historically, childhood schizophrenia and infantile autism have been compared and confused. While the DSM-III diagnosis of autism suggests the differentiating features in the diagnosis of autism and schizophrenia, Petty, et al. suggested that, contrary to belief, there is some evidence of a relationship between the two. These discrepancies, representative of the literature, highlight the need for continued clarification in diagnosing autism.

Issues related to treatment

While much of the early research on autism focused on etiology and diagnosis, there soon emerged a growing and equally dynamic body of literature which examined treatment approaches. Few practitioners or researchers agreed on which approach was best. Some representative approaches follow.

Psychoanalytic approaches provide treatment frameworks for autism as well as other childhood psychoses, in an effort to organize the ego structure and functioning. A review of the research suggests that these dynamically-oriented psychotherapeutic approaches have not produced significant results with autistic children. Miller reported that some improvements may be observed yet much effort is required, progress is slow and fragile, and gains are lost easily.

Behavioral procedures have been popular in the treatment of autism. Interventions often implement behavioral programs which attempt to extinquish undesirable stereotypical behaviors such as hand flapping. Lovas suggested applying reinforcement theory by using aversive stimuli was especially useful in the extinction of self-destructive behavior. These aversive procedures, however, are highly controversial with parents as well as with practitioners and are banned in some states.

Schopler et al. examined a wide variety of treatment approaches in order to determine the effect of treatment structure on the development of autistic children. Acknowledging that different therapies have varying amounts of structure, Schloper and his colleagues found that children with autism respond best to relatively **high structure** and relatively unstructured psychoanalytic play therapy is not appropriate treatment. He further posited that while operant conditioning techniques may be highly structured, they may not offer maximum benefits if rates and levels of development are ignored.

Merzer and Chastain also discussed the limitations of behavioral approaches. Through their clinical experience with behavioral procedures, they suggested that while those procedures may produce short-term gains in isolated skills, long-term integrated development appears limited.

Most effective contemporary approaches appear to be not strictly behavioral or psychoanalytical, but rather include **multiple components** within their treatment framework. Rutter and Swanson suggested the importance of providing counseling to parents as well as behavioral treatment for the child. Schopler and Reichler acknowledged the importance of parent involvement by proposing a treatment framework that uses parents as the primary developmental agents for their own children with autism.

Biological approaches focused on the effect of **diet and drugs** on autistic behaviors. Rimland suggested a positive behavioral effect when children with autism ingested high doses of vitamin B-6. Summarizing the drug research, Campbell, Cohen and Anderson found a wide range of drugs are employed with limited results affecting behavior.

The field of **education** provides a body of research significant to autistic children's development. Balow and Balow suggested that while a medical examination may substantiate or address physiological disabilities or malfunctions, it is the educator who carries primary responsibility to assist parents and children with the critical developmental tasks. Because of the complex constellation of characteristics typical of autistic children, this is a great challenge.

Autism and Attachment

Autism and attachment are two terms which historically intrigued researchers from many disciplines. Separately, these two topics are cited in a substantial amount of literature. Used together, autism and attachment might be considered a contradiction in terms. Kanner even suggested that attachment occurs in almost all children except those with early infantile autism. According to the DSM-III, one criterion in diagnosing autism is the pervasive lack of responsiveness to other people--contrary to what is normally expected as a child develops an attachment to a primary caregiver.

Little has been published regarding autism and attachment. In fact, of the 1,259 references in the *Annotated Bibliography of Autism: 1943-83*, not one article or book includes the word attachment in the title or summary description, and only 64 deal with social development.

A later study by Sigman and Ungerer suggests that **autistic children can differentiate between mothers and strangers** and show some attachment behaviors. While the study suggests that children with autism do demonstrate attachments which may be qualitatively different, there is seemingly no literature available regarding intervention. Thus, questions remain: How are attachment behaviors facilitated in children with autism? Why is attachment important in the development of the child with autism? Because of the limited research, perhaps a better place to start is by asking why attachment is important for any child. The following discussions will examine some of the research which has focused on attachment, mother-child interactions and bonding.

Attachment

Bowlby has been a prominent figure in the study of attachment. Taking an **evolutionary perspective**, he postulated that the mother-child attachment fulfills biological functions that promote species survival. Biologically, Bowlby purported that humans instinctively protect themselves from predators by increasing proximity to caregivers. In addition, Bowlby suggested that diverse behaviors such as smiling, clinging, and signaling are all functionally-related in that they promote proximity with the caregiver.

Ainsworth expanded on Bowlby's views, pointing out that exploration is equally important to protection and consequently attachment. Within her research on attachment, Ainsworth discussed four development stages:

- Stage one occurs during infancy, between 1 and 3 months, when infants differentiate between people and objects
- Stage two emerges between 6 and 8 months, as infants differentiate between mother and others
- Stage three emerges around 10 months when the infant exhibits object and people permanence
- Stage four occurs much later, between ages four and five years, when children are able to exhibit a mature attachment to their caregiver.

Within these developmental stages, Ainsworth suggests the quality of the mother-child attachment can be examined by her standardized "**strange situation,**" which provides a controlled procedure for observing a child's interaction with a parent. Ainsworth purported that it is during distress or threatening situations that infants actively seek out the caregiver and

play/exploration only returns upon re-establishment of contact with that figure.

Sroufe and Waters expanded on Ainsworth's ideas. They found that the child's inability to find comfort with a parent is an important sign that the child's attachment behaviors are not serving the integrative/adaptive function common in most infants.

Sroufe has been instrumental in delineating the **construct of attachment**. After careful examination of how attachment is defined and used in research, he contends that attachment is an **organization of behaviors** (not isolated skills or behaviors) that must be observed over time and across situations.

He pointed to several studies which used Ainsworth's strange situation to determine the quality of the organization of attachment behaviors a child exhibits. Sroufe proposed that secure attachment leads to positive self-esteem, ability to cope and solve problems, independence and competence among other traits.

In independent research, Blacher and Ulrey reported similar results, showing that secure attachment is a precursor to good adjustment through life, as well as the cognitive, effective, and motivational sides of the infant's behavior.

These studies represent the view that **attachment** is an important and **necessary prerequisite** for appropriate **social-emotional development**, as well as the **development of cognitive and inter-related skills.**

Mother-child interaction

While the organization of these attachment behaviors has implications regarding infant growth and development, they also serve a **communicative function between the infant and caregiver**. Some of the researchers examined the reciprocity or synchrony of the mother-child interactions, thereby studying how mothers and infants respond to and with each other.

Fogel suggested that coping skills, which develop as a result of mother-child interaction, are related to the developing infant's ability to adapt to arousal. They may be referred to as self–regulation, self-control, ego function, or arousal tolerance.

Lester et al., examined mother-infant interactions in terms of **social interaction rhythms**. These are biologically-based and provide infants with structure to form temporal expectations which organize cognitive and affective experience. The **reciprocal nature of mother-child interactions** sets the stage for the development and response to the organization of behaviors called attachment. Brazelton et al. cited that the interdependence of rhythms seemed to be at the base of attachment as well as communication. Stone and Chesney recognized the infant's behavioral expressions of attachment as cues, enabling the caregiver to attach meaning to some aspect of the infant's behavior.

Bonding

Klaus and Kennell, through their well-known research on pregnancy and delivery, also acknowledged the **reciprocal role** of the parent and infant. They used the term **bonding** to describe the attachment from parent

to infant and suggested there may be a critical period during which the bond ideally develops. They made recommendations for facilitating this parent-child bond, making the assumption that some parents whose infants send hard to receive cues, may want and need the use of professional input to interact with their child.

Frazier and LeVine examined damaged bonds associated with child abuse and suggested that **parent-child maladative interactions** are self-perpetuating as the child's misbehaviors continue, in spite of discipline or punishment. A comparison can be made to children with autism, who may seek out predictable responses (e.g. spanking, without discriminating between positive or negative consequences) because of their autistic-like characteristics. The resulting parent-child interactions may become maladaptive, due to the child's limited ability to cue and the parents' difficulty in responding. A proposed approach treatment for improved bonding includes:

- Alleviating the child's symptomology
- Providing a corrective bonding relationship
- Prompting attachment behaviors in the child
- Teaching the child how to induce attachment actively from the primary caregiver.

The proposed model for facilitating attachment with autistic children does not vary far from the goals of Frazier and LeVine's model. Instead of working toward reattachment, however, the autistic child requires assistance in providing and responding to primitive (behavioral) attachment cues.

Summary

The research on infant-parent and parent-infant attachments provides a wealth of information on its importance to child development. Blacher reported that a number of variables may influence the attachment process in children who are severely impaired:

Δ Child variables pertaining to type and visibility of handicap
Δ Parent variables pertaining to adjustment to the handicap
Δ Parent-child variables on reciprocity of communicative interchange

The current research provides limited information regarding attachment in children with autism. The available research and clinical experience, however, does suggest that the process of attachment, (although it may be qualitatively different), can play a significant role in the development of the autistic child. In addition, it appears possible to foster attachment behaviors through a series of attachment-based activities which promote skills in both the child and the caretaker.

For resources which provide more detailed information on attachment in children who develop typically, consult the appendix.

Section II
Clinical Applications

Section II
Clinical Implications: Attachment Guide

The following summary description of the history and development of Minneapolis Children's Medical Center's *Exceptional Children with Communication and Interaction Disorders* (ECCID) is included to provide the reader with an understanding of how and why the intervention framework was developed.

The Setting

Exceptional Children with Communication and Interaction Disorders (formerly the Program for Autistic and Other Exceptional Children) began at the University of Minnesota in the Department of Psychoeducational Studies. The program was funded by a grant received by Dr. Uwe Stuecher and initially functioned as a masters level teacher education program. The program initally searched to find three children who fit the clinical diagnosis of autism. Within a few years and with the implementation of PL 94-142 (PL 94-142 mandates that the school district is responsible for the education of all handicapped children), the program received referrals for children exhibiting a wide range of communication and interactional difficulties. After six years of affiliation with the University of Minnesota, two staff members, Sheila Merzer and Lyle Chastain, who had been among the initial graduate students, moved with the program to MCMC.

While the program is known widely for its work with children who have autism, it recently was broadened to include children who have autistic-like characteristics but do not meet all of the diagnostic criteria in DSM-III. Program services range from evaluations, parent-child sessions, day treatment program, consultation, inservice training, workshop presentations, as well as supportive and therapeutic services to parents and siblings.

The program philosophy is developmentally-based within a psychoeducational framework. Observation of the childrens' characteristics substantiates much of the literature which suggests that autism is a physiologically-based disability, with unknown etiologies. Study of these children reveals that, while they do not have the same handicap, the children have some physiological, neurological, metabolic, or language based disability which affects their ability to interact, communicate, or learn.

As a result of the staff's experience with this population of children, the following working model and rationale for intervention was developed by Merzer and Chastain:

> . . . we look at the child's autistic behaviors as his way of coping with whatever is physiologically or metabolically dysfunctional for him. Unfortunately, these automatic coping behaviors (such as self-isolation) tend to block or prevent growth. Hopefully, the child can be taught more adaptive ways of coping with his disability that do lead to growth. The ways the child is managed, cared for, and taught may make the child worse, unwittingly perpetuate the child's handicap, or facilitate optimal development. While the tendency toward autistic behavior indisputably begins in the child, interactional patterns do develop between the child and his parents which may affect growth. It is also true that over time these interactional patterns become more and more difficult to change.

Along with this model came a set of assumptions regarding the child with autism:

- Δ the child with autism cannot organize input independently
- Δ the nature of the child with autism is to be repetitive
- Δ the child with autism does not naturally integrate or generalize information
- Δ the child with autism tends to memorize a sequence of events rather than the concept being taught
- Δ inappropriate behaviors often result from interactions between the child's limited cognitive, language and interactive abilities and the demands of the external environment
- Δ the child with autism does not respond to or provide typical signaling behaviors, and this in turn produces a mother-child interaction where reciprocity is affected.

As the working model evolved, so did specialized intervention strategies. When the program first began, skills were taught in a repeat trial format while encouraging compliance. In addition, behavior difficulties were targeted and behavior management approaches were applied. While progress appeared, Merzer and Chastain suggested that a pattern of limited gains began to emerge. The children in the treatment program acquired skills which did not generalize. Instead of learning concepts, behavioral sequences were memorized. Inappropriate behaviors which were decreased in one setting reappeared in others or were replaced by other more self-destructive behavior, and speech was rote and monotone, with little spontaneity.

Through the extensive experience and insight of the staff, the program developed a philosophy which provides attachment-based intervention for working with children that present a wide range of difficulties in interaction and communication.

The following pages outline this framework and are meant to be adapted, expanded and reworked in order to meet each child's special needs.

Introduction to guide

Much of today's literature and practice with autistic children focuses on behavior management or skill training and assumes that attachment cannot be a primary focus because of the child's constellation of characteristics. However, *ECCID*'s perspective is that attachment is paramount. It is the first step in the development of foundation skills which further enable the development of social, cognitive, and other developmental skills necessary for learning how to learn.

This guide challenges the long-held assumption that children with autism are not able to form attachments. In addition, a new assumption is made: that the organization of behaviors called attachment can be fostered via the proposed attachment-based activities described in the section that follows.

Attachment behaviors

In order to develop activities that are attachment-based, clear, observable and measurable, first we define attachment.

Ainsworth, Bell and Slayton have suggested that attachment behaviors include:

smiling	**crying**
vocalizing	**approaching**
following	**reaching**
grasping	**clinging**

These behaviors are evidence of attachment and are functionally-related and important in promoting caregiver and infant proximity. The purposeful nature of these behaviors within the context of a social relationship encourages a secure attachment. With a secure attachment, the child then begins to comfortably explore the environment. Needless to say, this exploration is essential to learning. As children develop, they maintain a balance between attachment and exploratory behaviors which include: **locomotion, manipulation, visual exploration**, and **exploratory play**.

Sroufe suggested that the security of an attachment is established through countless interactions. Children with autism lack the purposeful behaviors which initiate or maintain a social relationship, let alone an attachment. Since children with autism are limited in their ability to interact, it also can be assumed that these limitations affect the quality and degree of attachment with their caregivers. Consequently, intervention is essential for the child with autism.

It also is important to recognize that the quality of attachment in a child, autistic or not, should not be inferred from isolated behaviors. Rather, the quality of attachment should be inferred from the pattern of behavior, in consideration of context, across time.

The following chart provides an overview of early developmental skills important to the development of attachment. While the chart includes skills often exhibited by the child of less than two years of age, these are often skills missing in children with autism who are chronologically older.

The next section includes a framework that will provide ways to foster the development of those interactional behaviors that are crucial to attachment and to learning.

DEVELOP-MENTAL SKILLS/ ATTACH-MENT	0-2 Weeks	2 Weeks	4 Weeks	8 Weeks	3-4 Months	6-9 Months	10-12 Months	12-18 Months	18+ Months
	No differentiation between people/ objects	Prefers human voice	Prefers mother's voice	Established eye contact	Distinquishes face; social smile	Prefers mother	Separation anxiety		
AINSWORTH	Stage I Differentiation of people and objects					Stage II Differentiation of mother	Stage III People and object permanence		Stage IV (four to five years)
BOWLBY	Indiscriminate Attachments					Discriminate attachments		Gradual separation from mother and attachment to others	
FREUD	Oral Phase								Anal phase
ERICKSON	Trust/Mistrust								Autonomy/ shame/doubt
PIAGET	Reflexive		Primary circular reactions	Sensorimotor Development		Secondary circular reactions	Coordination of of secondary schemes	Tertiary schemes	Beginning of thought
PERCEPTUAL FINE MOTOR	Follows moving object				Reaches for dangling object		Voluntary release		Imitation
SOCIAL EMOTIONAL	Quiets when picked up; quiets to face or voice; brief eye contact; smiles to talk/touch				Tracks adult; smiles at familiar faces; smiles in mirror	Laughs; peek-a-boo	Performs for attention	Leaves for contact with familiar people	Emerging independent play
COGNITIVE	Learned responses; repeates random movements				Looks at objects; tracks	Attains partially-hidden object	Pulls string to attain ring	Repeatedly finds hidden toy	
GROSS MOTOR	Lateral head movements				Pulls to sitting; bears some weight	Reaches	Creeps; first steps	Walks	Up stairs; runs stiffly
LANGUAGE	Moves in response to voice; vocalizes randomly				Turns to sound; differentiated cry	Babbling	Orients to name	Uses gestures; follows simple directions	

Developmental milestones

This an overview of early developmental skills important to the development of attachment. While the chart includes skills often exhibited by children of less than two years of age, these skills are often missing in children with autism who are chronologically older.

Activity Components

Play is a primary medium through which children learn. Research shows a relationship between early social play and later attachment, so the proposed activities will be discussed within a framework of play. With this in mind, activities are arranged within a framework of four general components:

Δ **Development**--emphasizes the cueing behaviors important to initiate and maintain interactional contact within play activities

Δ **Presentation**--emphasizes the unique characteristics of autism that interfere with the child's ability to organize interactions and attachment of any kind and consequently must be addressed in the presentation of play

Δ **Cause**--emphasizes the structure needed in order to promote the initiation of attachment cueing responses from the child. Includes physical, nonverbal and verbal strategies, adapted to the child's level of development

Δ **Effect**--emphasizes the reciprocal response of the adult which serves to maintain the interaction and promote attachment between adult and child.

Development

Activity development should proceed with the child in mind. Emphasize such questions as:

"What does the child like to do?"
"What can the child do?"

rather than,

"What should the child be doing?"
"What should I be teaching?"

Initially, the activity should be chosen according to the child's preference and appropriate goals can be integrated within the framework of the child's choice of activities. Some research suggests that children with autism lack the motivation to particpate in many activities.

It is our staff's belief that these children can be motivated to do what they understand and are able to do. Consequently, apparent lack of motivation may be lack of understanding or ability.

Some children are clear in their activity preferences and choice of materials such as puzzles and bubbles. Some children's interest in objects may, at times, take the form of perservation or self-stimulatory play. Other children at first, seem interested in nothing. These complexities make working with children with autism challenging and create a demand for good practitioners. The important part to remember is that the child provides the information used in the development of activities. This may mean developing activities based on turning lights on and off, opening and closing doors, or even walking!

Often children with autism prefer objects over people. Consequently, objects and/or movement may provide a medium for interaction. For example, favorite toys can be held around the face, encouraging children to

look as they reach. While apropriately applied techniques can help facilitate the interactional component, it is important to acknowledge that this preference for objects can cause practitioners, as well as parents, to feel rejected. One can gain support by talking to other parents and practitioners.

Activity documentation

Information about what the child can do, likes to do, and avoids doing can be obtained through observation, parent and teacher interviews, and working with the child. Some people find it useful to document activity ideas in order to determine what particular type of activity is likely to work best. By breaking down this information, one can discover components which will maintain the child's participation as well as those which may promote overstimulation and in turn, undesirable behaviors. A sample activity documentation chart follows and also is included in the appendix.

Activity documentation

The purpose of documenting a child's participation within activities is to examine whether there is a pattern to the way in which the child participates within activities. By breaking down this information, one can discover components that maintain the child's participation as well as those that will promote the child's frustration. The following is a framework which may be useful in the examination of activities.

	LEVEL OF ENVIRONMENTAL STIMULI			EMPHASIS ON ACTIVITY COMPONENTS			
ACTIVITY	NOISE	MOVEMENT	# PEOPLE	LANGUAGE	VISUAL	SEQUENCE	PARTICIPATION
A "Storytime"	2	1	8	5	2	2	1
B "Obstacle Course"	4	5	8	2	4	5	4

NOTE: The categories of noise, movement, language, visual, sequence and participation are based on rate and the number rank from 1 (minimum) to 5 (maximum).

Explanation:

While "storytime" has a fairly low level of stimulation, the language component is high and in turn, the child participates minimally and may be a behavior "problem." In comparison, the obstacle course, while high in stimulation, provides greater emphasis on visual and sequential components resulting in greater participation. As a result of this documentation, it may be hypothesized that movement-based activities which provide a clear visual structure will promote the child's participation and provide a framework for working on more difficult areas (i.e. language).

In addition to the child's abilities and preferences, another important consideration is the child's developmental skill levels. Most children with autism exhibit scattered profiles, with skills at several different developmental ages (refer to the sample MCDI profile in the appendix). For one four-year-old, this may mean playing, "peek-a-boo." Another child, age three, may participate best by tracking objects as they move across her visual field. Yet another child, at age 2 1/2, may be fascinated with letters or words, without understanding their meaning. With such a range of skill levels, several factors must be considered to develop activity programs which combine components the child wants and can do, as well as components which are more difficult for the child. For example, a puzzle activity can be structured in a "hide-and-seek" framework, to provide the child with a visual activity that also encourages language.

Skill levels can be determined by:

- Δ Talking with parents
- Δ Using appropriate developmental inventories or behavior checklists
- Δ Observing the child

Examples of tools that can assist in determining developmental skill levels can be found in the appendix.

While it is important to determine an appropriate age level at which the child is functioning, it also is crucial to take the particular characteristics of autism into consideration. In other words, because there is an assumption that some underlying physiological or metabolical disorders exists, children with autism may be extrememly variable and inconsistent in their ability to respond. Consequently, skill levels may fluctuate from day to day and within different settings. This means activities should allow flexibility so the child can participate optimally on any day. For one child, this may mean using words to get a puzzle piece on one day, but gesturing or tolerating assistance with the puzzle on another. This flexible approach has many implications on setting goals.

Goal setting

Setting goals is not only important for the autistic child, but also for the parent, practitioner and administrator. All too often goals are set with specific criteria in mind in order to judge the progress on the child as well as the skills of the practitioner. When working with an autistic child, however, some new issues arise.

Because of physiological involvement, the nature of autistic children is to be inconsistent in their functioning. Needless to say, this makes achieving a rigid criteria difficult, and in turn, may create feelings of inadequacy in the practitioner. While it is important to write objectives which provide a measurable baseline of behaviors, it also is important to include flexibility so a child may funtion optimally within a learning situation. Consequently, phrases such as "increase the frequency with which. . ." or "expand the repertoire of. . ." or "increase John's ability to. . ." may alleviate the aforementioned difficulties. Within Minneapolis Children's Medical Center, staff members videotape the child periodically in order to substantiate baseline measurements and to record qualitative changes in functioning. In addition, the videotapes are a useful training tool.

Another frequent issue of goal setting with autistic children surrounds inappropriate behaviors. Often practitioners describe the child as requiring intervention to eliviate kicking, biting, hand-flapping, screaming, and so on. What follows in an Individual Education Plan (IEP) which includes objectives to: eliminate kicking; eliminate biting; and eliminate hand-flapping, etc. Subsequently, parents and practitioners are positioned for an endless battle--to rid the child of behaviors that have, historically, been his or her only means of communicating wants or needs. In addition, the attempt to rid a child of appropriate behaviors, often results in more intense and self-injurious behaviors (e.g., head banging). In a short time, the adults can become frustrated with the child and the purpose of intervention is seemingly lost.

It is not uncommon for practitioners to get lost in pursuing short-term results by focusing on the management of behaviors. There is a flip side of the coin, however. Assuming that the behaviors of the child with autism have a purpose, intervention can focus on long-range results while indirectly addressing inappropriate behaviors. For example, observing a child's behaviors across situations, over time, it may be the case that the child flaps his hands when he becomes overstimulated. Instead of focusing on the behavior, the goal may be written to address the purpose behind the behavior:

- Δ Increase Jeff's ability to persist and calm independently within activities as environmental stimulation increases
- Δ Increase the frequency that Jeff will request "help"in order to persist within a highly-stimulating envirnment
- Δ Increase the length of time during when Jeff will tolerate and maintain participation within highly-stimulating activities

Another advantage in writing goals in this manner is that it allows an attitude which is positive for the child as well as for the adult. The approach takes the responsibility off the child for performing up to criteria and removes the accountability of progress from the adult. Rather, the child is provided with an opportunity to function at his best, whatever that might be, on that particular day, during that activity or moment.

Following are examples of goals and objectives:

Encourage social-emotional development

- Δ Increase John's spontaneous eye contact
- Δ Increase the frequency with which John will initiate eye contact or physical contact in order to communicate a want or need
- Δ Increase the frequency with which John will tolerate, then seek out want or need
- Δ Increase the frequency with which John will follow, then seek out a desired person or object
- Δ Expand John's repertoire of feelings, both nonverbal and verbal (e.g., crying when sad)

Δ Increase John's ability to appropriately ask for "help" (rather than using behaviors)

Δ Encourage a differential attachment to John's parent (or teacher)

Encourage the development of receptive and expressive language

Δ Increase the frequency with which John will nonverbally communicate his wants or needs

Δ Expand John's repertoire of nonverbal communication

Δ Increase the frequency with which John will respond to nonverbal or verbal directives

Δ Increase John's ability to use words in a variety of ways

Δ Expand the variety and complexity (multiple steps) of the directives John will follow

Δ Increase the frequency with which John will follow verbal directives without the assistance of nonverbal prompts

Encourage the ability to learn from the environment

Δ Increase John's ability to wait, take turns

Δ Increase John's ability to persist within an activity which is difficult for him

Δ Increase John's ability to regulate incoming stimulation as evidenced by his ability to persist within activities with variable degrees of stimulation

Δ Expand the ways in which John will use materials

Δ Increase John's ability to use materials in a variety of ways

In summary, when considering the **development** of activities, one must understand the abilities of the child so that cueing can be promoted within activities which are based on the abilities and needs of the child.

Presentation

The presentation of materials is sometimes the most difficult aspect to develop. Here, the interactional component must be considered to facilitate attachment behaviors integrated with other skills. Painter suggested that infants learn by trial and error, imitation, natural and logical consequences. Children with autism often do not exhibit the ability to learn in these ways. With children who develop more typically, adults generally do not need to

organize the presentation of materials to such a great degree. Without a highly-structured presentation, the child with autism often cannot understand expectations. Consequently, he does not participate or may become behaviorally difficult to manage and often does not learn. Optimally, the goal of structuring the presentation is to organize the materials/activity in a way that children understand what is expected so they can learn how to participate. When developing a presentation framework, the following are considerations.

Type of input--The presentation of an activity should include verbal, nonverbal, and kinesthetic information in order to provide the type of input the child best understands. As the child understands the activity framework, visual and nonverbal prompts can be decreased while language is increased.

Visual structure--The presentation of an activity should have a clear visual structure. Children who have difficulty processing language are not always able to understand or able to wait for directions. Consequently, the visual information helps provide expectations for participation. Gestures, like pointing, and visual calendars (see appendix for sample) can be especially useful in providing the child with structure.

Clear, predictable sequence of events--The activity should have a clear beginning and end as well as clear, predictable sequences within. Research has supported the importance of predictability for social development. In the larger picture, routine encourages predictablity. On a smaller scale, activities can be predictable in presentation. For example, a puzzle begins when the child helps to remove the pieces, or takes it off the shelf. Clarifying the beginning and end of sequences is an important and fundamental property of child interactions.

Consistent, clear response--Within his examination of parent-child interactions and infantile autism, Drotar emphasized the importance of consistency and clarity on the part of both parent and infant. For example, a parent who presents contradictory or unclear messages such as inviting an infant's response with her voice but stimulating withdrawal with touch might engender confusion and impede the development of the relationship. Similarly, an infant with highly unpredictable or unclear signals might stimulate parental confusion and perhaps withdrawal.

Parallel talk is a strategy which promotes consistent, clear responses and organizes input for the child as well. Use of this strategy is more effective if language is broken down into one or two word phrases that are paired with the child's actions or feelings. For example, the adult can simply say, "put in," as opposed to, "put the puzzle piece in the bucket." By eliminating extraneous words, the child may better be able to process the verbal input.

Cause-effect framework--The presentation should incorporate a cause-effect sequence of events. Children should be encouraged to do something in order to get what they desire. For example, if the child holds out his hand (nonverbal) or responds, "piece," (verbal) then the child receives the puzzle piece. This component is of primary importance in encouraging interaction and will be discussed in more detail later.

Sroufe and Water suggested that the learning which occurs in caregiver-infant interaction assumes that the infant acquires the ability to appraise a wide variety of environmental contingencies. Children with autism seemingly do not learn from contingencies on their own. Rather, they seem to repeat a sequence mechanically without discriminating between positive and negative consequence and/or without understanding the concept of being taught.

Organization of stimuli--The presentation of an activity includes the organization of the environment. A primary deficit of children with autism is that they are unable to organize incoming stimulation. Consequently, the adult must be responsible for organizing the environment for the child. This may mean structuring the space to eliminate excessive noise, movement, materials, and people. For example, the adult may hide puzzle pieces out of sight, behind her back, so that each piece can be presented individually and in turn, the child can maintain attention and focus.

Wilbarger recommended such organization as part of a sensory diet. He suggested that, by providing developmentally sequenced, sensory motor experiences which encourage the child to be self-directed, the child may be able to participate with limited adult assistance. Rogers et. al., recognized the impact of organization and suggested that the environment operates "an an ego structure that regulates, mediates, selects, focuses, and organizes sensory stimulation for the chldren to maximize learning."

Wenar discussed the importance of the caretaker with regard to stimulation and suggested that the mother figure is a stimulator for the infant as well as a mediator of stimulation. Fogel, too, discusses the importance of the adult as he has suggested:

> The parents' role during these play encounters is to help the infant regulate and maintain the positive arousal within optimal limits, neither so low as to be boring nor so high as to be overwhelming.

Variable presentation--The presentation of an activity does not remain static. By organizing the presentation, a child can understand better the expectations and consequently learn how to participate. Once the child understands or memorizes the framework, the presentation can be changed slightly so the child continues to have opportunities to learn. This component is important since the child with autism tends to repeat activities without learning from them. Consequently, gradually presenting various materials in a variety of ways, encourages integration and generalization.

Integrate skill components--Another goal of organizing an activity presentation is to integrate a wide variety of developmental skills within a single activity. This is different that skill teaching which focuses on training a skill through repetition of a task. Children with autism tend to repeat behavior sequences without understanding the concept being taught. For example, one child may quickly memorize the sequence of numbers, one to ten, without developing a corresponding understanding of number concept.

Consequently, this guide supports an integrated presentation framework, designed to aid better integration and generalization of concepts and in effect, teaches the child to learn how to learn. The inter-relationship of developmental skill areas is not a new concept. Of paramount importance was Piaget's suggestion that sensorimotor experience provided a strong foundation for later cognitive functioning.

In her early studies on attachment, Ainsworth reported that bush-reared Ganda infants, who received more intense and consistent sensorimotor stimulation than western infants, were accelerated in their motor development and their attachment to their mothers appeared earlier and was more strongly established. Korner further supports inter-relationship of skills, especially to affective development:

> Most interesting from a research point of view is the fact that stimulation involving one sensory modality inadvertently provides stimulation in another. Interconnections between infant sensory experience and affective impact on both mother and

> child clearly exists already at birth. . .we found that movement stimulation had a much more powerful effect on the behavior and development of the subjects than did the [physical] contact.

In summary, the unique characteristics of the child with autism requires careful consideration when establishing a **presentation** framework for attachment-based actitivities.

Cause

The third component in devloping an activity is causal in a sequence of events. It is the response the child is encouraged to make in order to initiate or maintain a desired behavior or action. This is the component that provides an interactional component to activities, requiring access to a material or an adult to provide a response. This social or interactional play has been determined to be related to attachment. Consequently, this also is an essential component in facilitating attachment behaviors.

The encouraged response will vary from child to child and activity to activity. A verbal child may say, "up," in order to be popped into the air. A nonverbal child may achieve a similar response by holding his arms up. In order to facilitate a response from the child, the adult can provide appropriate prompts that may vary between children or vary between days and activities for each child. While one child may require repeated physical assistance in order to approximate the gesture, "up," another child may respond to, "you can tell me 'up'."

Summarizing the **cause** component, the adult provides the child with autism a structure that promotes behavioral cues indicative of attachment.

Effect

In developing an activity, effect may be the most important component to the child and serves as a built-in motivator to the child. Although the action or response follows after the initiating response of the child with autism, the sequence of events is not meant to be a strict contingency. Because children with autism tend to become disorganized, they, at times, cannot respond. Consequently, the child should be offered an opportunity to respond (cause) and if no response occurs, the adult should assist the child to respond in order to receive the desired effect. Using the "popping" example, the adult would say, "up" while physically assisting the child to lift his arm before popping him into the air. Within this framework, while the child is offered opportunities to respond, the adult responds to the child's variability by assisting the child as much or as little as he requires.

This flexible responding provides children with an ability to cope with increasing amounts of arousal. Because the child with autism has limited and variable ability to cope with changes of stimulation, adult responses become even more important. For example, as a result of their extremely limited ability to communicate verbally, children with autism may communicate their inability to cope with incoming information, behaviorally. As a result, children with autism are perceived as having behavior problems. Yet, a closer

look often reveals a pattern to the behaviors that may typically occur during language-based or highly stimulating activities.

Consequently, it is the responsibility of the adult to use each child's behavior as a cue that they may be overstimulated, frustrated, or may not understand expectations. With this information, the adult can adapt the environment and respond accordingly. As Fogel suggested:

> The data are sketchy, but work with young infants suggests that intervention that "works for one infant may not help another." The adult may keep an open mind about how to engage, excite, or calm the child.

The response of the adult (**effect**) is meant to continue or maintain the child's reciprical involvement in interactions by returning to the causal cueing behavior and repeating the activity that is furthermore important to attachment. Once the child understands the structure of the activity, variation should be introduced so the child continues to have opportunities to learn.

To further clarify the preceding discussion on each activity component (development, presentation, cause and effect), examples which will offer the framework for activities appears later in this guide.

Treatment framework

Within Minneapolis Children's ECCID program, a team approach is used, with one therapist working with the child and another working with parent(s). This parent-child guidance framework is useful in providing parents with play and management strategies. In addition, when parents play an active role, the framework is useful in facilitating attachment. The framework supports the idea that both the parent and child need help in promoting a positive reciprocal relationship. While it is hoped that all parents can benefit from and participate in attachment-based intervention, it also is recognized that children and their teachers or therapists develop attachments which are essential to the learning process. For many children, this therapist-child relationship may take on the role of substitute bond.

Frazier and LeVine proposed that within this bond, the child's behaviors are shaped in order to promote reattachment with their primary caretaker. While this framework has been proposed for children with maladaptive attachments, it also provides a framework for families who have a child with autism.

The following activities are presented within a framework which proposed six treatment themes. The themes represent a developmental progression of activities meant to facilitate attachment behaviors as well as integrated skill development. While the framework is directed at parents and their children, the treatment process and activities within also may begin with the teacher or therapist. The sessions are structured to occur weekly and, depending on the parents(s) and/or child, they may occur more or less frequently. In addition, the family may repeat the weekly themes or change the structure of involvement as needed. Parent involvement ranges from observation behind a one-way mirror to active participation following or leading activities. As a result, while one family may observe for four weeks before entering the playroom, others may start to lead activities the second week. Still other parents may lead activities independently while the other

parent watches or follows a lead. In short, a skilled practitioner must be able to gather information from the family in order to structure a treament framework that is useful to parents and child.

Goals within this team approach are reciprocal, emphasizing the needs of both parent and child. Parents are encouraged to learn how to comfort the chld while the child is encouraged to learn how to respond to comfort. Parents also are encouraged to praise appropriate behaviors and redirect inappropriate behaviors. Concurrently, children are encouraged to respond to praise as well as to seek out assistance in learning what to do rather than what not to do. While parents are encouraged to explore their feelings that result from interactions with the child, children are encouraged to use more appropriate ways to communicate their anger, frustration, and excitement.

This framework is a stepping stone. It is only the beginning of treatment which is geared toward children and their families. After six sessions of parent guidance in this structured format, children often are enrolled in an intensive day treatment program where intervention continues to be relationship-based with a developmental therapist and expands on activities which have been implemented with the parents. Parents and siblings participate variably, within a framework that meets their individual needs.

Following is a visual structure, followed by a short written description of each of the six treatment themes. These include:

- Δ Perspectives on behavior
- Δ Positive interactions
- Δ Organization of the environment
- Δ Focus and persistence
- Δ Sequential organization
- Δ Permanence

Treatment Framework

Theme 1	Theme 2	Theme 3	Theme 4	Theme 5	Theme 6
Perspectives on behavior (observation)	Positive interactions (rock and stop)				
X	X	Organization: cause-effect (bubbles)			
X	X	X	Focus-persistence (ready-set-go)		
X	X	X	X	Organization (first-then)	
X	X	X	X	X	Permanence (be right back)

Observation. . . . . .Parent involvment. . . . . .Directive play with child

Perspectives on behavior

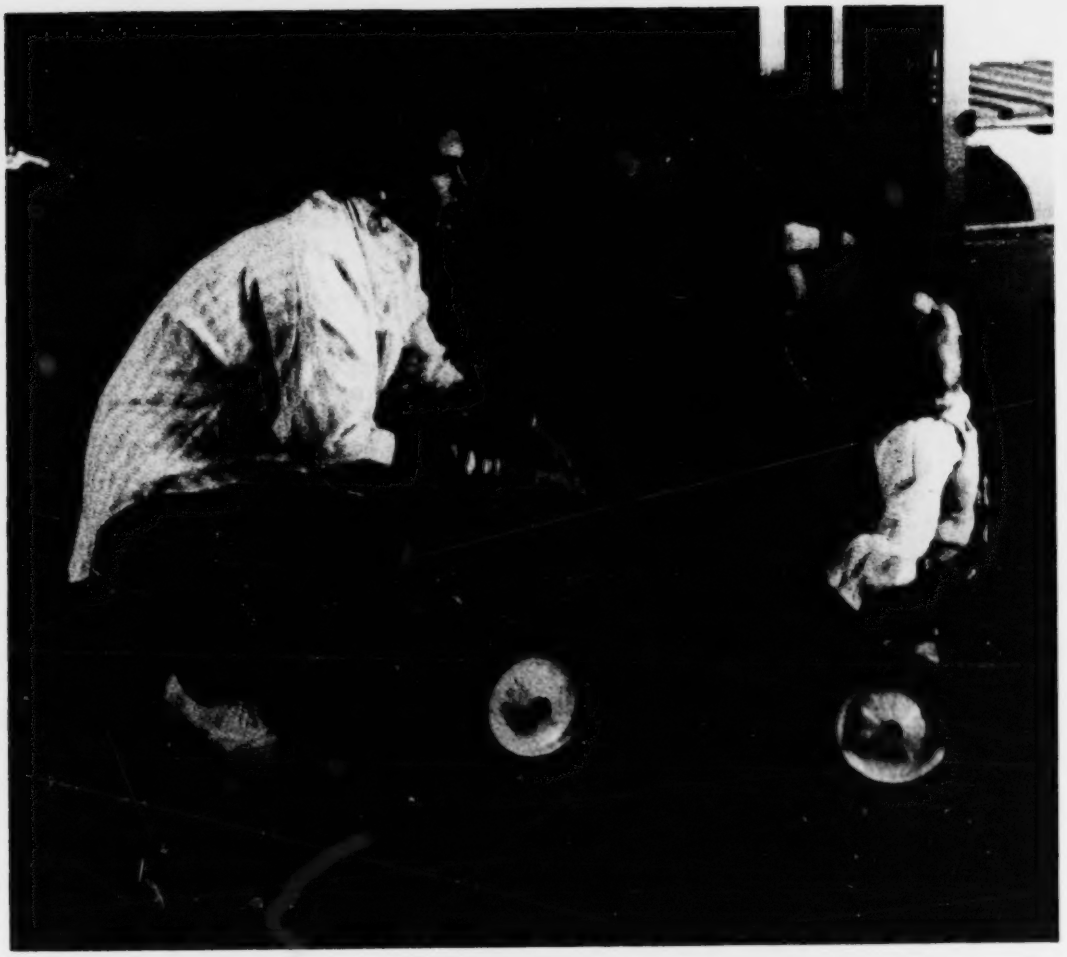
These sessions are meant to gather and to share information. While staff gathers information by working with the child and talking with parent(s), they also share information on program philosophy. Especially important is information about parents' perceptions of developmental skill levels and strategies which have been used, successfully and unsuccessfully, to manage and play with the child.

Program staff typically talk about the behaviors of the autistic child as his or her way of coping with limited ability to communicate. Consequently, the child may be signaling the parent in atypical ways, often by screaming, kicking, tuning out, wandering, etc. Observing through the one-way mirror provides both parents and staff with examples to talk about.

The child therapist typically provides examples of processing difficulties by giving verbal directives with and without clear visual cues. The child with autism often echoes words automatically, yet does not respond unless directives are visually clear. For example, the therapist may request that the child put the cover of the bubble jar "under the chair." Often the child does not understand and does not respond to the verbal directive without an accompanying gesture.

Depending on the parent(s), it is sometimes useful to discuss perspectives on behavior by watching a vidoetape. Some parents benefit from watching their own child while others gain information by observing a tape of another child.

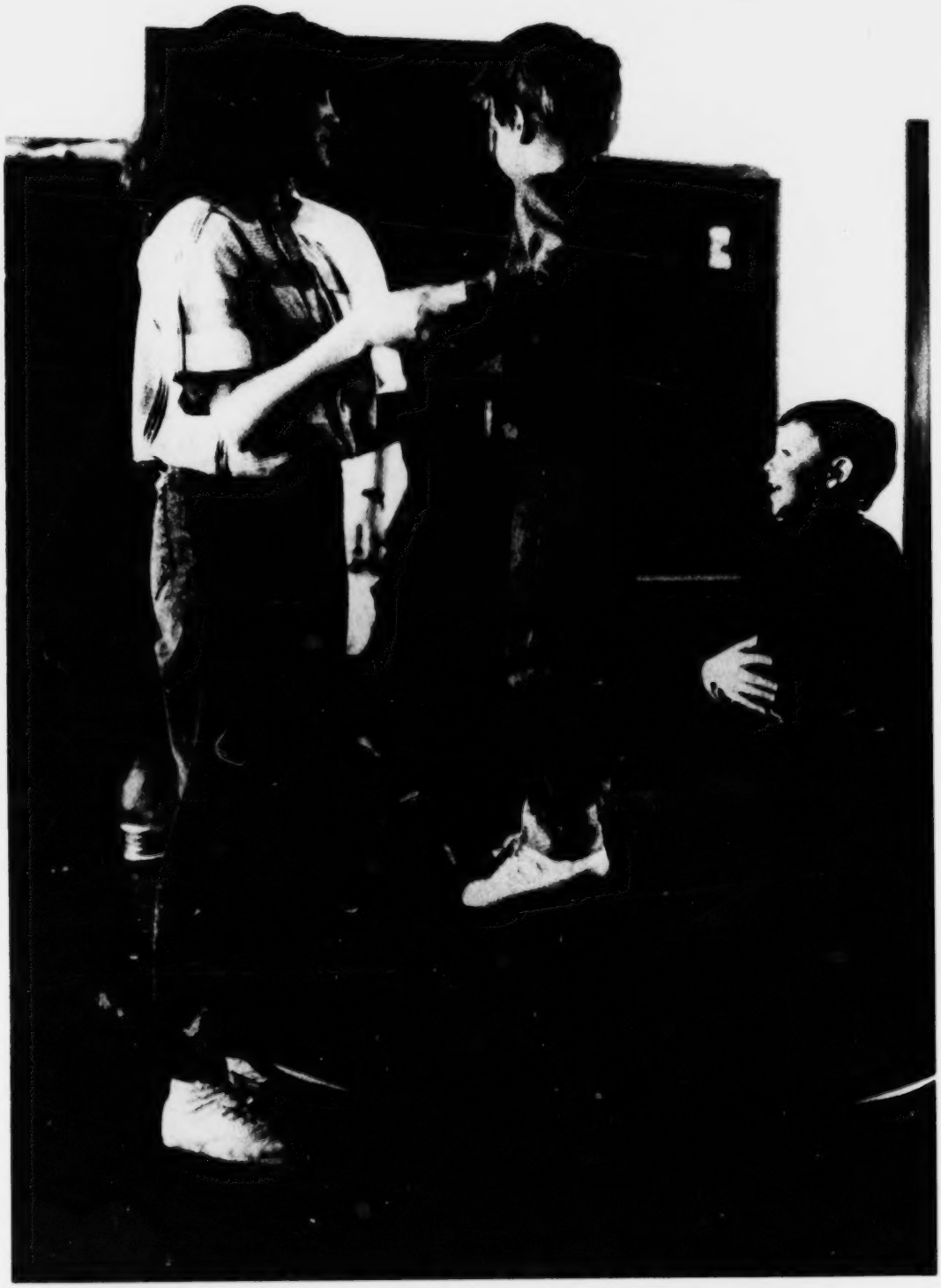
While staff often brainstorm with parents and practitioners about intervention strategies, they also are careful to point out that there are no recipe card strategies for working with this population of children. What becomes important is that parents are given a framework for understanding the behaviors of their child that previously seemed overwhelming or incomprehensible.



This variation of "Stop and Go," encourages the child to initiate touching the teacher's hand while maintaining eye contact (cause) in order to make wagon go (effect).

Positive Interactions

For some families, this is the most important step in facilitating attachment behaviors. All too often, because children with autism have a range of behaviors that is difficult to manage, the only interaction both parents and children experience is over the frustrations of behavior management. In addition, children with autism do not typically respond to management strategies which work for other children. For example, one child may continue to spill his juice, seeking the predictability of being sent to his room. The child with autism, seemingly has no sense of what he can do instead of spilling juice, nor does he discriminate between the praise or punishment that follows. As a result, an outside environment can sometimes provide parents with a structured framework where they can promote and practice positive interactions within a play framework. Expectations often vary depending on the parent(s) and child. One family, for example, may take a less active role as the child plays with the therapists. In another family, a parent may direct the child in a variety of activities.



A variation of "Rock and Stop" uses motor-based activities to promote language as the child initiates "jump" (cause) in order to be assisted on the trampoline (effect). This motor activity is also useful in modulating high levels of excitement or frustration.

ROCK AND STOP

DEVELOPMENT

Based on: approaching
smiling
following

PRESENTATION

Child opposite adult on boat rocker

CAUSE

Physical: Adult takes child's hand
Nonverbal: Child initiates eye contact
Verbal: You can tell me "rock"

EFFECT

Adult "rocks" and "stop"

RELATED GOALS

Increase spontaneous eye contact

Increase types of activities where child interacts positively

Organization of the environment

By the third session, parents are sometimes ready to try strategies that promote organization and learning in the child with autism. Initially, staff often describes the importance of structuring activities to include a cause-effect framework. Within this theme, parents are encouraged to bring in materials and ideas from home, to discover ways to organize the activity in a way that the child can understand, enjoy and learn. Cause-effect activities are emphasized as is the interactional component necessary to promote attachment.

The following sample activities promote organization for children with autism.

For the child who tolerates physical contact, "Tickle" can be a useful activity to promote attachment behaviors by encouraging child's "reach" (cause) in order to receive adult's "tickle" (effect).

TICKLE

DEVELOPMENT

Based on: touching
reaching
smiling

PRESENTATION

Child on chair; boat rocker; carpet square; etc.
Adult faces child

CAUSE

Physical: Adult takes child's hand
Nonverbal: Adult extends hand while saying "hand"
Verbal: "You can tell me 'tickle'"

EFFECT

Adult walks fingers up child's arm, saying "tickle, tickle"

RELATED GOALS

Increase spontaneous eye contact

Increase ability to initiate communication

Increase tolerance for tactile stimulation

VARIATIONS

Physical: Encourage reaching to different locations
Nonverbal: Encourage child to extend leg, elbow, etc.
Verbal: Encourage labeling of body parts
Interactional: "Tickle Jeff's elbow"

POWDER AND LOTION

DEVELOPMENT

Based on: touching
reaching
grasping

PRESENTATION

Child in chair; standing; boat rocker; etc.
Adult faces child

CAUSE

Physical: Adult rubs powder/lotion on child's hand
Nonverbal: Adult extends hand, saying "hand"
Verbal: "You can tell me 'powder/lotion'"

EFFECT

Adult rubs powder/lotion on child's hand and repeats "rub" as she rubs

RELATED GOALS

Increase fine motor coordination

Increase ability to visually or verbally make a choice

Expand understanding of cause-effect sequences

VARIATIONS

Physical: Encourage child to rub on self and others
Nonverbal: Encourage nonverbal choice (pointing)
Verbal: Encourage verbal labeling "rub" or "squeeze"
Interactional: "Where is powder?" "On my nose."

Attempting to blow bubbles, the child is encouraged to initiate "help" (cause) in order to receive adult assistance (effect).

BUBBLES

DEVELOPMENT

Based on: approaching
following
grasping

PRESENTATION

Child sitting or standing
Adult with bubbles and wand

CAUSE

Physical: Adult guides child's hand to pop bubble
Nonverbal: Adult extends hand while popping on child's hand
Verbal: "You can tell me more 'bubbles'"

EFFECT

Adult blows bubble and catches on wand, then guides to child in order to pop

RELATED GOALS

Increase tracking of moving object

Increase ability to seek out desired object

Increase variety of ways in which child initiates activity

VARIATIONS

Physical: Encourage child to put wand in bottle
Nonverbal: Hide wand behind back, encourage child to follow a point to "get it"
Verbal: "Blow bubbles on door, table;"etc.
Interactional: "Tell Tom 'bubbles'"

SOUND PLAY

DEVELOPMENT

Based on: vocalizations
reaching
grasping

PRESENTATION

Child on floor; lying on back

CAUSE

Physical: Adult guides child's hand to push adult's hand to chest

Nonverbal: Adult prompts child to reach for adult's hand

Verbal: "You can tell me 'go'"

EFFECT

Adult pats child's chest, encouraging her to make "ahhhh" sounds

RELATED GOALS

Increase length and type of vocalizations

Increase ability to spontaneously vocalize in order to initiate action/movement

Increase purposeful grasping

VARIATIONS

Physical: Encourage child to physically move to obtain hand

Nonverbal: Encourage reaching to different locations

Verbal: Encourage variety of sounds

Interactional: Encourage child to pat adult's chest

PUZZLE

DEVELOPMENT

Based on: approaching
grasping
manipulation

PRESENTATION

Child on floor; at table
Adult facing child with puzzle pieces behind back; in box

CAUSE

Physical: Adult guides child's hand to drop piece "in"
Nonverbal: Adult extends piece while saying "piece"
Verbal: "You can tell me more 'piece'"

EFFECT

Adult gives puzzle piece to child

RELATED GOALS

Increase ability to locate hidden object

Increase abilitiy to manipulate small objects

Increase ability to ask for "help"

VARIATIONS

Physical: Encourage child to "push" as adult holds piece above hole
Nonverbal: Encourage child to follow point
Verbal: Encourage child to follow directives "piece in hand"
Interactional: "Give square to Sara"

This variation of "Up" encourages the child to extend his legs (cause) in order to swing (effect). A related language goal is to encourage child to verbalize "swing" or seek out "help."

"UP"

DEVELOPMENT

Based on: approaching
following
reaching

PRESENTATION

Adult and child standing

CAUSE

Physical: Encourage child to lift arms
Nonverbal: Child lifts arms indicating "up"
Verbal: "You can tell me 'up'"

EFFECT

Adult pops child "up" into the air

RELATED GOALS

Increase the frequency that the child seeks out adult

Increase the length of time during which the child actively remain involved and seek out interaction

Increase tolerance for physical contact

VARIATIONS

Physical: Add motor sequences (encourage child to run after adult)
Nonverbal: Encourage child to reach for arms, indicating "down" or "up"
Verbal: Encourage child to say "up"
Interactional: "Do you want 'up' or 'over?'"

Focus and persistence

Once the child has an understanding of the cause-effect nature of activities, he or she begins to expand the types of activities in which he or she will participate. As this mastery occurs, the next theme is introduced--focus and persistence.

Children with autism often appear limited in their ability to focus and persist within a range of activities yet may be uncommonly occupied by one activity for hours. Some parents describe that their children will swing for hours if it is allowed, yet will appear fleeting in their ability to manipulate a puzzle.

The fourth theme attempts to introduce ways to encourage focus and persistence by using movement. If the child is able to show an emerging ability to seek out an object across space she or he may benefit from these activites. Often these activities incorporate a "Ready, Set, Go" framework, thereby giving children a structure through which they can understand when to move. Familiar activities provide the foundation for these activities, yet a new twist is added. A puzzle, for example, can be placed across the room upon a table. The chairs are placed along opposite wall and visually the child is able to see the expections of the activity (puzzle), turn-taking (by observing when the adult sits back into her chair), and the start and end of the activity (all the pieces are in place). The activity also retains its cause-effect nature by encouraging the child to say "go" at the end of the "ready, set. . " sequence. Variations are easily added depending on the skill levels of the child

"Ready, Set, Go," can incorporate a variety of materials. For example, while on the slide, the child can be encouraged to slide a favorite toy (effect) as his developmental therapist prompts, "ready, set, go" (cause). This activity may be useful for increasing the child's tolerance for letting go of a toy on which he typically self-stimulates.

READY, SET, GO

DEVELOPMENT

Based on: locomotion
following
visual exploration

PRESENTATION

Child in chair; facing opposite wall
Puzzle on table across room

CAUSE

Physical: Adult encourges child to stand after "ready, set, go"
Nonverbal: Adult encourages child to nonverbally (body posture) anticipate "go"
Verbal: Encourage child to say "go"

EFFECT

Adult guides child (if needed) across the room to put piece in puzzle before returning th chair

RELATED GOALS

Increase ability to persist across space

Increase ability to maintain focus within activity

Increase ability to move body through space

VARIATIONS

Physical: Hide pieces in sleeve, sock, shoe
Nonverbal: Point to location of piece
Verbal: "Do you want to jump or crawl to the table?"
Interactional: "Whose turn is it?"

Sequential organization

As the child begins to respond to the organization the adult provides, and after he or she begins to exhibit mastery within one-step directives, he or she may also benefit from activites that promote sequential organization, or multiple steps.

Multiple-step activities can be visually presented by integrating two familiar activities together. Verbally, the phrase, "first_____, then_____," is a useful prompt. For example, by incorporating a slide into a puzzle activity, children can visually see both materials from their chair. Before they are prompted with "ready, set, go," the child can be verbally and nonverbally (by pointing) told, "first slide, then puzzle." Inititially, some children may require physical assistance in completing the sequence until they understand.

Variations can be added by having a child carry the puzzle piece "under" or "around" the slide. Sequential organization also can assist children with their ability to wait. As they understand the verbal "first_____, then _____" phrase, it can be used in stressful situations to promote a beginning ability to internalize self-control.

The child is encouraged to first initiate "roll" (cause) in order to build a tower after receiving a block (effect). Through role reversal, a more verbal child can be encouraged to initiate, "first roll, then build tower," to the adult.

FIRST-THEN

DEVELOPMENT

Based on: following
locomotion
visual exploration

PRESENTATION

Child and adult in chairs facing opposite wall, puzzle on table, slide in between

CAUSE

Physical: Adult leads child through actions
Nonverbal: Child watches adult demonstrate actions
Verbal: "First slide, then put piece in puzzle"

EFFECT

After "ready, set, go," the child goes on slide then puts piece in puzzle

RELATED GOALS

Increase ability to follow two-step directives

Encourage development of memory

Increase ability to wait and take turns

VARIATIONS

Physical: Encourage sliding on tummy, etc.
Nonverbal: Point, "Which piece do you want?"
Verbal: "What comes next? First_____, then_____."
Interactional: "Tell John what to do. First_____, then_____."

This multiple step activity encourages the child to wait for the adult to put a puzzle piece in the truck, to initiate "go" (cause) and to then put the piece in the puzzle (effect).

PUZZLE-TRUCK

DEVELOPMENT

Based on: visual exploration
grasping
manipulation

PRESENTATION

Child and adult facing each other on floor or at table; child has puzzle frame, adult has pieces and push-truck

CAUSE

Physical: Adult guides child to reach/gesture for truck

Nonverbal: Child initiates "go" or "come here" by gesturing

Verbal: Child initiates "go" or "come here" when prompted

EFFECT

Adult puts piece in truck and pushes to child, child puts piece in puzzle and returns truck

RELATED GOALS

Increase ability to sequence events

Increase ways in which the child plays with one set of materials

Increase ability to wait

VARIATIONS

Physical: Encourage child to get truck if strayed from course and appropriately return to activity

Nonverbal: Encourage child to point "goes in truck"

Verbal: Encourage child to verbalize sequence of events ("goes in," "push," etc.)

Interactional: "Which piece do you want?"

CHALK AND WATER

DEVELOPMENT

Based on: visual exploration
grasping
manipulation

PRESENTATION

In chairs facing chalkboard, adult models, using chalk, then erasing with water

CAUSE

Physical:	Adult guides child to reach for chalk/ water
Nonverbal:	Gesture child to "get chalk/water"
Verbal:	Child encouraged to initiate "my turn; chalk; water"

EFFECT

Line is drawn, brush is used to paint over line, while saying "bye"

RELATED GOALS

Increase ability to verbalize sequence of events

Increase ability to identify shapes, body parts, etc.

Increase ability to take turns

VARIATIONS

Physical:	Increase ability to control fine motor movements
Nonverbal:	Encourage child to point to "chalk; square; water," etc.
Verbal:	"What comes next?"
Interactional:	"Tell John to 'bye-bye circle'"

Permanence

Research suggests that person- and object-permanence are important milestones in the development of attachment. Once a child attaches to the parent he or she experiences difficulties with separation, thus attachment and separtation become two sides of the same coin. In turn, a secure attachment as well as the development of permanence become important for the infant's tolerance for separation.

An alternative for the use of puzzles, this activity encourages the child to follow a gesture or verbal direction in order to find the desired piece to complete the puzzle. Without visual input (gestures), this activity is useful in assessing the child's understanding of language. For example, "get piece under table."

HIDE-N-SEEK

DEVELOPMENT

Based on: locomotion
manipulation
visual exploration

PRESENTATION

Child and adult on chairs with box, bucket, blanket on floor. Puzzle on table to side.

CAUSE

Physical: Assist child to get puzzle piece after he watches adult hide it
Nonverbal: Adult points, "piece is in the box"
Verbal: Without visuals, adults says, "piece is in the bucket"

EFFECT

Child is encouraged to "go get it" in order to put piece in puzzle.

RELATED GOALS

Encourage imitation skills

Increase ability to differentiate between object

Increase labeling vocabulary

VARIATIONS

Physical: Show child "Where is the piece?"
Nonverbal: Point, "Where is the piece?"
Verbal: Use words, "Where is the piece?"
Interactional: "Tell Jim where he should hide the piece."

This variation of "Peek-A-Boo" encourages the child to initiate eye contact. The child extends his feet to begin the game, and the adult uses his feet to hide her face until the child initiates eye contact (cause) and responds "peek" (effect).

PEEK-A-BOO

DEVELOPMENT

Based on: visual exploration
reaching
smiling

PRESENTATION

Adult and child sit or stand. Use blanket, door, window as screen.

CAUSE

Physical: Encourage child to reach for blanket over adult's face
Nonverbal: Child looks out door, window
Verbal: Upon seeking adult, child is encouraged to say "peek"

EFFECT

When adult is discovered, animate voice and face with "peek"

RELATED GOALS

Increase ability to obtain pleasure via interactions

Increase frequency with which child will seek eye contact

Encourage seeking-out behaviors

VARIATIONS

Physical: Encourage child to follow across increasing distances
Nonverbal: Child can be prompted with point to find desired adult
Verbal: Encourage child to follow direction of sound
Interactional: "Tell John, where is Diane?"

BE RIGHT BACK

DEVELOPMENT

Based on: visual exploration
following
locomotion

PRESENTATION

Child in wagon. Primary adult waits in room while another adult (parent) pulls child in wagon.

CAUSE

Physical: Child is pulled behind divider, waving "bye" upon leaving and "hi" on return

Nonverbal: Child is encouraged to wave bye independently while leaving room and to point to parent upon return

Verbal: "First go get drink, then be right back."
"Tell mom/dad, 'be right back.'"

EFFECT

Parent participates in waving and become animated upon child's return; eventually roles are switched.

RELATED GOALS

Increase tolerance for frustration

Increase ability to persist with a potentially frustrating situation

Increase ability to tolerate, then seek out comfort when frustrated

VARIATION

Physical: Guide child to leave the room

Nonverbal: Encourage child to wave "bye" on own

Verbal: Encourage child to wait while adult leaves, "first play, then be right back"

Interactional: "Tell mom, "first go get drink, then come right back"

Section III
Summary and Conclusion
Appendix

Section III
Summary and Conclusion

The previous pages provided a brief overview of autism and issues related to its etiology, diagnosis and treatment. The attachment literature also was reviewed, to provide the reader with an understanding of factors important to typical child development. Drawing from both fields, the reader was then encouraged to synthesize the literature to better understand the role of attachment for the child with autism.

With a theoretical foundation provided, the reader was encouraged to use play activities within a framework that emphasizes attachment behaviors in an organized and structured presentation. Treatment themes also were presented to provide the reader with a developmental progression for structuring attachment activities.

Conclusion

The described treatment approach evolved over years of clinical experience. *Staff of Exceptional Children With Communication and Interactional Disorders* evaluated and worked with several hundred preschoolers with autism and other related disorders, thereby continually evaluating and refining their approach. The clinical results are promising.

While the approach does not suggest a cure for autism, it appears to promote optimal development for many children. The definition of optimal development, however, is relative to the abilities of the child and the family. For example, one young girl was diagnosed with disintegrative childhood psychosis at the age of two, six months before her enrollment in the program. After two years of intensive involvement with the child, and periodic involvement by her parents and siblings, the child proceeded into the public school system where she is currently main-streamed within an elementary classroom with supplemental support services. Another child, whose nonstop screaming interfered with her ability to participate in other educational settings, developed the ability to communicate her wants and needs with echoed word phrases. Yet another child, nonverbal and highly variable in his functioning, emerged with a growing understanding of cause-effect activities and will seek out rather than avoid adult assistance.

While these children and others exhibited interactional gains, they also emerged with gains in other areas of development. Minnesota Child Development Inventories (MCDI) completed by parents at least once each year, substantiated these results. Some children, while still functionally-delayed, showed an encouraging rate of growth over time, e.g., one year's growth over a one-year period of time. Surprising to some, the emphasis on what is important in the long term (the ability to learn from interactions with the environment and people) produced gains in areas that are often emphasized in the short term (inappropriate behaviors). Screaming, in some cases, was redirected into"help me;" hand-biting into jumping; and head-banging into "I'm mad."

Above and beyond these skill gains, and at least as important, is the growth families experience. Some gained an expertise in responding to the signals of their child. Others gained a support system from other families in the program. Siblings gained skills in coping with some of the stresses experienced by families who have a child with autism. In addition, the siblings gained support and information from other siblings who share similar family experiences.

While the components of this intervention program benefitted many families, it is important to recognize that effective intervention cannot be separated from the skills, attitudes and experiences of the practitioner. In addition, the complexities of autistic children require ongoing effort in communication, coordination and working with professionals as well as families in order to benefit the child. Consequently, program staff found networking and teamwork to be essential in promoting a therapeutic environment.

Certainly an overwhelming task, this project spurred further interest and research in the area of attachment for populations with special needs. While the clinical evidence is promising, there is a need for a controlled research study of the attachment guide. Staff of *Exceptional Children with Communication and Interaction Disorders* are now examining a potential research design.

In spite of several controversies within the field of autism, many share Wing's outlook:

> The hope for the future is that the causes of early childhood autism will be found, and that this will lead to the development of methods of cure and prevention. As far as can be seen at the moment, it is likely to be a long time before these hopes are realized. In the meantime, the important task is to help the children who are already handicapped to achieve as happy and as full a life as possible for them.

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Developmental resources

The following tools may assist the practitioner in determining developmental levels for program planning. Because few instruments have been standardized specifically for children with autism, interpretations should not be made solely on these tools. Rather, diverse information should be collected in a wide variety of settings.

Assessment in Infancy: Ordinal Scales of Psychological Development.
Uzgiris, I., and Hunt, J. (1975).
University of Illinois Press.

A developmentally-sequenced test that provides practical ways to assess a child's various skill areas.

The Assessment of Early Child Development.
Flapan, D., and Neubauer, P. (1975).
New York: Jason Aronson.

This book provides yet another look at development. The framework is general and broad-based, providing information on social and emotional development by describing characteristic and uncharacteristic behaviors which occur during the various Freudian stages of development.

Battelle Development Inventory.
Newborg, J., Stock, J., Wreck, L., Guidabaldi, J., & Svinicki, J. (1984).
DLM Teaching Resources.

This test is becoming increasingly popular as a screening tool for preschoolers. While the test includes some adaptations for children with special needs, they are not specific to autism.

Bayley Scales of Infant Development.
Bayley, N. (1969).
The Psychological Corporation.

The items in this test provide an overview of early developmental milestones which are sequenced and broken into small increments.

Developmental Guidelines.
Sprugel and Goldberg

Ten popular assessment tools are compiled into one resource, providing a developmental overview of when behaviors and skills occur within various developmental areas.

Developmental Programming for Infants and Young Children.

Schafer, D., and Moerch, M. (1981).
Ann Arbor: The University of Michigan Press.

Based on research on other infant and preschool assessments, this instrument assigns items to specific age ranges and is especially useful in providing the practitioner with a developmental progression of skill abilities as well as goals and activities associated with them.

Diagnostic Inventory of Early Development.
Brigance, A. (1978)
Woburn, MA: Curriculum Associates, Inc.

An instrument that provides a criterion-referenced format for 18 different skill sequences.

Minnesota Child Development Inventory.
Ireton, H. (1974)
Minneapolis, MN: Behavior Systems.

This tool complements parent interviews and provides a "profile" of the child's development, based on parent
report. The instrument was standardized on a population developing typically, and is based on mother report. ECCID
staff has both parents each complete a questionnaire, using the profiles as a framework for talking about the child.

Piagetian Based Infant Stimulation Curriculum.
Gawiser, P., Inglis, L., Kindred, S., Lewis, L., Nash, E.,
Penrod, M., Roth, P., and White, J. (1972)
The Nisonger Center: Ohio State University.

This curriculum divides various areas of development into the developmental concept which is being mastered by the child and provides activities that promote concepts.

Diagnostic Resources

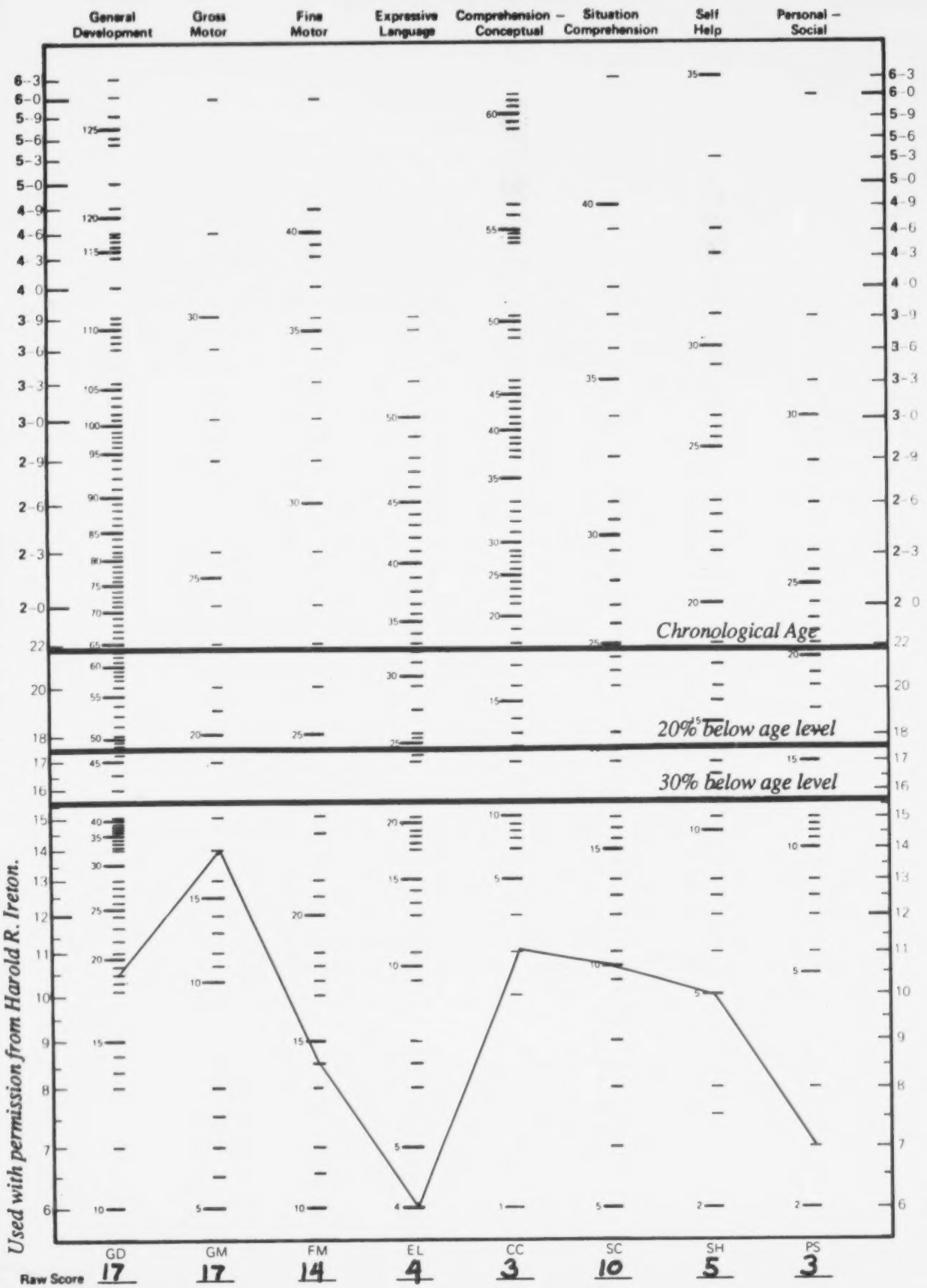
Recognizing the difficulty in obtaining consensus between practitioners, a number of diagnostic tools have been developed. These tools (which are listed in the bibliographys under author's name) include:

- Autism Screening Instrument for Educational Planning (ASIEP) (Krug, 1980)
- Behavioral Rating Instrument for Autism (BRIACC) (Ruttenberg et al., 1977)
- Behavioral Observation Scale (Freeman, 1980)
- Childhood Autism Rating Scale for Exceptional Children (CARS) (Schopler, 1980)
- Evaluation and Prescription for Exceptional Children (EPEC) (Flaherty, 1976)
- Psychoeducational Profile (PEP) (Schloper, 1979)

Minnesota Child Development Inventory Profile

Harold R. Ireton and Edward J. Thwing

FEMALE



Name _____ Date Completed _____

Birthdate _____ Age 23 MONTHS FEMALE

Used with permission from Harold R. Ireton.

This portion of a developmental checklist was designed by incorporating generally-accepted developmental skill levels from a variety of sources. It has been adapted by the staff to be used with developmentally delayed children.

Minneapolis Children's Medical Center

DEVELOPMENTAL CHECKLIST

PROGRAM FOR CHILDREN WITH COMMUNICATION AND INTERACTION DISORDERS

Rate the following areas of functioning/skills:

E = Emerging - the child approximates the skill
M = Mastery - needs to demonstrate skill typically and consistently

Child's Name _____

Date of Birth _____ Age _____

Date _____

	TEACHER NAME:				
	DATE (Month/Date/Year):				
I. Gross Motor Does the child:					
(0 - 6 months)					
Follow the movement of an object with his/her eyes					
Lift head while lying on back					
Sit supported with back straight					
Grasp object while sitting					
(6 - 12 months)					
Roll from stomach to back					
Maintain balance while sitting					
Crawl on hands and knees					
Stand alone					
(12 - 18 months)					
Take steps standing alone					
Throw ball standing or sitting					
Stoop to pick up toys without falling					
Walk up stairs with help					

91

75

76

10/86
FORM:1A32

(CONTINUE)
DEVELOPMENTAL CHECKLIST

Minneapolis Children's Medical Center

The child with autism exhibits disordered language characteristics which require careful examination. Often these children memorize and use words without understanding their meaning.

Child's Name _____

Date of Birth_____ Age_____

Teacher _____

	SPONTANEOUS				
	APPROPRIATE				TEACHER
DATE	CONSISTENT	INCONSISTENT	INAPPROPRIATE	ECHOED	INIT.
e.g. 1-2-80	*help*		*"Fischer Price"*	*jump*	

INITIAL KEY	Init	Signature	Init	Signature

4/86
FORM:1A21

Activity Documentation

(See page 14 for explanation.)

	LEVEL OF ENVIRONMENTAL STIMULI			EMPHASIS ON ACTIVITY COMPONENTS			
ACTIVITY	NOISE	MOVEMENT	# PEOPLE	LANGUAGE	VISUAL	SEQUENCE	PARTICIPATION

NOTE: The categories of noise, movement, language, visual, sequence and participation are based on rate and the number rank from 1 (minimum) to 5 (maximum).

Visual calendar

☐ **Gym**

☐ **Small group**

☐ **Music**

☐ **Snack**

☐ **Special time**

☐ **Get ready to go home**

The child can be encouraged to color in the corresponding square upon completion of the activity. This visual sequencing can also assist in concepts such as "what just happened?" "What's next?"

GROUP OBSERVATION/CONSULTATION FORM

Exceptional Children with Communication and Interaction Disorders

Room _____ Consultant _____

Lead Dev. Therapist _____ Date _____

Reviewed with Group ____ yes ____ no

Activity _____

Environmental Structure

Room Organization _____

Adult Organization/Signals

How does activity begin _____

How does activity end _____

Play: (circle) Solitary Parallel Interactive

Goals

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These forms assist our developmental therapists in examining the structure required for autistic children to participate in groups.

Observations	Impressions	Recommendations

2/87 FORM:1A88

These forms are useful for examining the multiple perspectives which result from a single observation.

Minneapolis Children's Medical Center

CONSULTANT OBSERVER FORM

Exceptional Children with Communication and Interaction Disorders

Name _____ Consultant _____

Dev. Therapist _____ Date _____

Reviewed with Dev. Therapist __Y __N

Observations	Impressions	Recommendations /Strategies
e.g. child wanders from table	*transition to new activity difficult-- child does not understand verbal cues.*	*use visual calendar*

7/86 FORM:IA55

Publications for children, parents and professionals from

Minneapolis Children's Medical Center

Minneapolis Children's Medical Center

Having a Brother Like David, is a storybook designed for young children who have a sibling with special needs. The story offers the perspective of Marty, whose brother, David, is autistic. Marty shares experiences, thoughts and worries as well as coping alternatives about life with David. Softcover...$6.95

Autism. . .A Family Affair, is a curriculum for siblings of children with autism. The book includes a theoretical framework for program design, a model sibling program offering a sample of weekly themes and specific activities, and examples of pre- and post-program data gathered from parents and siblings. Spiral bound. . . $11.95

Attachment and Autism, is an attachment-based intervention curriculum. It provides practitioners with an historical overview of autism, how it relates to attachment and why attachment behaviors are crucial to development. The guide outlines the structure for intervention and includes sample activities which are in use at Minneapolis Children's. Spiral bound...$11.95

Order form BOOK	QUANTITY	PRICE	+ POSTAGE/ HANDLING ($1.50/copy)	TOTAL
Having a Brother Like David	____	$ 6.95	_____	_____
Autism. . .A Family Affair	____	$11.95	_____	_____
Attachment and Autism	____	$11.95	_____	_____

Ship to: _____

Name Title Organization/Address

_____

City State Zip Telephone Number

Please make your check or money order payable to Minneapolis Children's Medical Center. Allow 4-6 weeks for delivery. Your group may qualify for quantity discounts. Please write or call for further details. Mail this form and your payment to:

Minneapolis Children's Medical Center
Exceptional Children with Communication and Interaction Disorders
2525 Chicago Avenue South, Minneapolis, MN 55404
(612) 729-6001

Minneapolis Children's Medical Center is a pediatric specialty facility for children from premature newborns to adolescents. The medical center's philosophy of care is family-oriented, focusing on the physical and emotional well-being of children and families. *Exceptional Children with Communication and Interaction Disorders,* one of the programs offered at MCMC's Early Childhood Center, aims to foster the positive development of young children who have moderate to severe difficulties with communication, learning, behavior, and interaction, including children with autism and related developmental disorders. Diagnostic, individual and familily services are available, as are outreach and consultation services.